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ABSTRACT

This evaluative study reports on the first year of operation of the audiovisual resources center in the Brownless Medical Library of the University of Melbourne. During a representative week in each of three terms in 1978, every user of the center was requested to complete a comprehensive questionnaire. In addition, a staff questionnaire was mailed to all medical and biological staff of the university. The nature and extent of use of the center were explored in depth, as well as the relevance and adequacy of the program with respect to both the needs and expectations of staff and students. The report analyzes the developments to date and indicates ways in which the facility can become an even more effective learning resource in the future. There is a listing of sixteen references and appendices that provide information on audiovisual program usage and the questionnaires used in the survey. (Author/PAA)

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The Brownless AV Centre: the first year of operation

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A report prepared for the Steering Committee

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Abstract

This evaluation study reports on the first year of operation of the Audio-Visual Resource Centre in the Brownless Medical Library of the University of Melbourne. During a representative week, in each of the three terms in 1978, every user of the Centre was requested to complete a comprehensive questionnaire. In addition, a staff questionnaire was posted to all medical and biological staff of the University. The nature and extent of use of the Centre, the relevance and adequacy of the programs, with respect to both the needs and expectations of staff and students were explored in detail. This report analyses the developments to date and indicates ways in which this facility can become an even more effective learning resource in the future.

Contents

Page

Introduction	1
1.0 Use of AV materials in Medical Education	2
2.0 Operation of AV Resource Centers	4
3.0 Surveys of the first year of operation	6
3.1 User Survey	6
3.2 Staff Survey	6
4.0 Survey Results	8
4.1 Responses to survey questions	11
4.2 Collection usage by titles	15
4.3 Summary of open ended questions	16
4.4 Equipment and Maintenance	17
4.5 Staff Survey	17
5.0 Discussion	18
6.0 Recommendations	21
References	24
Appendix 1. Programs in special categories	25
Appendix 2. Survey Questionnaires	28

The Brownless Audio Visual Resource Centre opened on the 6th March 1978 as a section of the University of Melbourne's Brownless Medical Library. By November 1978, the collection numbered 430 audio visual programs, some of which were locally produced but the majority were purchased from other universities and commercial distributors. At the end of its first year of operation the investment in the Brownless AV Resource Centre totalled \$70,000 which comprised \$30,000 in programs and \$40,000 in hardware support. Approximately half the hardware costs were used to provide AV hardware to support clinical teaching in the surrounding teaching hospitals of the University. The central resource on campus contained twelve carrels and two group areas; these were supplied with six videotaperecorders and monitors, four tape/slide systems and four audio cassette decks. Some additional equipment was purchased for group audio listening and basic maintenance for the technician associated with the project. These funds were supplied by the University of Melbourne as part of a General Development Grant.

The Steering Committee of the Resource Centre requested that the project be evaluated to determine the use made of the Centre by students and staff. In early discussions specific questions were posed for the evaluation. In particular, some doubts were raised about the suitability of AV materials for pre-clinical medical students, the acceptance of this method of teaching by the academic staff, and the implications for the establishment and collection size of other AV resource centres on campus. Thus, the current study was undertaken to provide some background

information for planning future AV resource centre operations.

However, a number of constraints apply in the application of these results to other subject areas. The medical area is well supplied with audio visual instructional material at reasonable prices, the programs tend to be of specialized rather than of general interest and the Brownless AV collection was designed to be directly relevant to the student's classwork. General AV resource collections tend to include more peripheral titles. They are more likely to be larger and not as closely related to the basic curriculum.

The adequacy of the collection especially for clinical departments was not examined, nor was the use of the collection by clinical staff from the teaching hospitals. The study of the clinical uses of the AV resources was hampered by unavoidable delays in setting up satellite centres in the teaching hospitals.

1. Use of AV materials in medical education

Over the past 10 years articles on audiovisual materials and teaching strategies have become common in the medical education literature. The application of AV materials to teaching and learning problems has been creative and many unique variants have been described. Audio visual materials have been used in such diverse roles as:

(a) Individualising packages of learning materials for use in laboratories and libraries. In this area a number of studies have investigated the improved student performance in self-instructional programs (Feldman, 1969) and students' positive reactions to AV learning methods (in general surgery, McCarthy, 1971; and in Pathology, Anderson and Bickely, 1976).

Comparisons have been made with the formal lecture with varying results; some investigations have found no differences while others have found

positive gains for AV learning materials (in clinical medicine, Sweet and Doyle, 1971; in Gynecology and Obstetrics, Guyton, 1973)

(b) Demonstrating specified topics, showing procedures, demonstrating skills or showing examples of rare clinical conditions. All these applications use AV materials as a standard teaching resource. (Jackson and Moss, 1975)

(c) Investigating social relationships and patient/doctor behaviours. This has occurred particularly in Psychiatry (Akhter, 1976) and Family Practice (Zabarenko, Magero, and Zabarenko, 1977). Various aspects of the interaction have been studied including the use of television for behavioural feedback (Schmidt and Messner, 1977).

(d) Formal presentations by important speakers in a field to demonstrate new techniques and initiate discussion into problems. This process may be undertaken a number of ways but typically, television programs and drug company productions are involved (e.g. Gilliland, 1977). Often these materials are designed for mass viewing and tend to be didactic.

The results of a number of studies have appeared favourable towards the use of AV resources, although favourable student reaction is often determined by the energy and concern with which the teaching staff applies AV teaching methods. Guyton (1973) concluded that students generally had positive attitudes towards self-instructional packages and preferred audiovisual media with print supplements i.e. 16 mm film with accompanying printed materials and tape/slide programs (television was not included in the study). Other studies have supported this concentration on visual/aural supplements in medical

AV collections. (National Medical Audiovisual Centre of the National Library of Medicine, 1974).

Each program must be evaluated in these different teaching roles. In this respect, videotape has been a 'glamour medium' in medical education and has often been chosen or used as the vehicle of communication for this reason alone. Consequently, the inclusion of materials in this format must be carefully evaluated. In evaluating a range of audiovisual materials for medical teaching Geyman and Brown (1977) claimed:-

'...the most difficult part of the evaluation process is the continuing need to identify potentially useful audiovisual materials for review. Such materials proliferate each year in large numbers, and many audiovisual units, even when initially excellent in teaching value, become outdated and less useful.'
(p. 905)

2. Operation of AV Resource Centres

Most published reports have examined the design and operation of Medical AV resource centres similar to the Brownless Centre in descriptive terms (e.g. Saunders, 1977). For this reason it is difficult to establish criteria for comparison apart from obvious comparisons of size and amount of hardware.

One aspect of the use of a centre can be gauged by station occupancy rates or the number of carrels/learning stations in use compared to the number provided by the resource centre.

The Office of the Chancellor of the California Community Colleges (1976) undertook a station occupancy study of seventeen learning resource centres in the Community College system. The study was undertaken for one week and all users were monitored during that time. Approximately

15% of all stations were 'non-print' or 'wet' carrels that were provided with AV hardware. Station occupancy based upon actual hours of operation (7am to 10pm), ranged from 8% to 52% with a mean of 20%.

The survey found that the facilities accommodated 84% of users (students) in the period 8am to 6pm, Monday to Friday. When the evening hours (6pm to 10pm) were added, 97% of resource centre users were provided with access to the collection. The heaviest station occupancy occurred during the morning hours dropping to a low at 4pm and then increased slightly in the evening. Monday and Wednesday had the highest weekday usage, while weekend use was minimal.

Another measure of the acceptance of an AV resource centre is the use the teaching staff make of the collection. One study in a community college (Wilson, Houston and Starnes, 1976) reported a 69% (121 out of 175) return rate for a questionnaire, with part-time staff giving the smallest response. Use of AV resources by staff indicated that:

- (a) two thirds had recommended students to self-instructional materials
- (b) one quarter had a whole class watch or listen to AV materials in library
- (c) one quarter had used AV materials in a teaching area
- (d) one quarter had recommended AV titles for purchase.

In order to establish some basic comparisons, a number of AV resource centres were visited in the Melbourne metropolitan area.

Three of the five resource centres listed in Table 1 were devoted to the Bio-medical area and each differed markedly in size, function and organization. The Royal Melbourne Institute of Technology (RMIT) and Swinburne College of Technology are among the largest tertiary resource centres in Australia and as such provide good examples of high use AV centres; for example, during the first ten months of 1978, RMIT Non-book Materials Section had 58,444 visits which terminated in either an internal or external loan of a program. Certain audio programs at RMIT provide the basic teaching material in subjects such as Administrative Theory and Statistics. This results in a particularly high usage rate for these materials, both in respect to initial learning and revision. Another important facet of these centres' operation is the method of collecting statistics (Baxter, 1977) on the use of the facilities and the programs in their collection. Once usage rates are known it is possible to budget for maintenance and replacement costs.

3. Surveys of the first year of operation

The Brownless AV Centre opened for student use in the first term of 1978. To determine the development over the year, surveys of users were undertaken during a representative one-week period in each of the three teaching terms. A second survey of academic staff attitudes to the Centre was sent to the Medical faculty and allied Bio-medical departments at the commencement of the third term 1978.

3.1 User survey

Information on use of the Centre was recorded for a complete week in each of the three teaching terms of 1978. A research assistant asked

each user as they entered the Centre if they would answer a questionnaire

Table 1

MELBOURNE AV RESOURCE CENTRES	BROWNLESS	MONASH	SWINBURNE	RMIT	FAMILY MEDICINE PROGRAM
Nature of the collection	Bio-medical	Bio-medical	TAFE and General Tertiary	General Tertiary	Family and Community Medicine
Number of programs in collection	212 video 218 others	80 video 20 tape/slide 10 audio & 6 kits	900 video 450 films 150 film 8mm	532 video 410 tape/slide 2500 audio (1253 titles)	300 video 200 films (16mm) 281 tape/slide 300 audio 100 learning packs
Number of stations	6 video 4 tape/slide 4 audio	3 video 1 tape/slide	17 video 3 audio 1-8 film cartridge 2 tape/slide	8 video 3 tape/slide 5 film loop & audio 6 calculator & audio 21 audio	1 group viewing area
Potential users (approximate)	2,000	3,000	9,000	20,000	1,200
Spending on AV programs as a % of library book purchases (excluding periodicals)	28%	No special funding for non-print	15%	10%	158%
Number of staff operating AV services	1 Librarian 1 Technician	1/2 Librarian Use Ed. Tech. service for maintenance	1 Librarian 1 Library Technician 1 AV Technician and 1/3 casual staff (supervision)	1 Librarian 1 Library Officer 1 Library Technician 1 AV Technician	2 Librarians 2 Library Technicians and AV support
Organization of material on shelf	Numerical listing according to format	In accession number until catalogued - then Dewey	Dewey (according to size of package)	Integrated (all for mats in once sequence, except for audio - this will occur in July 1979)	Dewey according to format
Selection of programs	By librarian with recommendations from teaching staff	Library staff - enrichment. Academic staff - core-material	AV Librarian usually in conjunction with teaching staff	All purchases approved by co-ordinator of course unit	Medical panel preview or Director of F.M.P. unit
Relationship of programs to curriculum	Substantially curriculum	50% core curriculum (mostly produced on campus) 50% enrichment	20% core material 70% enrichment 10% recreational	Substantially curriculum	Related to Family Medicine needs
Usage (station occupancy)	14.6% (single user)	100% during peak periods	45.5% video average	100% occupancy for several hours/day during term. Queues for V/C 9.30am - 8pm during term, except Wednesdays	No stations - external borrowing
Videotape format	3/4" U-matic	Standard is 1/2" V/C	Standard is 3/4" U-matic	Standard 3/4" V/C	Standard is 3/4" U-matic and 16mm film

about their use of the Centre. This was completed and handed in as the user left. The Centre was monitored from 8am to 10pm each weekday and also Saturday morning. Less than 1% of users failed to respond to this request. The three weeks were chosen to be representative of Centre use and to reflect any developing trends in usage patterns. The first sample included the last week of lectures and first week of examinations at the end of first term. In second term, the sampled week was approximately half-way through the term, (July), while the third term week in October was two weeks prior to the final examinations. This third sampled week was two months after the academic staff survey. It was expected that more students might be using the Centre on the recommendation of staff in this last sampled week.

3.2 Staff Survey

During August a twelve item questionnaire was sent to all academic staff in the Medical Faculty and in related subject areas. Of 357 questionnaires mailed, 164 were returned (82 after the first mailing in August and a further 82 after a second mailing in September).

4 Survey results

Some users visited the AV Resource Centre more than once a week, on average this amounted to 1.4 visits per week. However, throughout this report the unit of analysis is the number of 'uses' of the centre.

A number of users appeared in more than one sampling period, and by the last surveyed week 21% of users had been respondents in previous survey periods. One student had used the centre twelve times over the three sampled weeks.

Table 2

Respondents in each survey period

<u>Term</u>	<u>No. of Users</u>	<u>No. of Uses</u>	<u>Uses per User</u>	<u>No. of New Users</u>	<u>New Users in Surveyed Week</u>
1	95	126	1.3	95	100%
2	168	244	1.5	160	95%
3	165	240	1.5	131	79%
Overall	428	610	1.4	386	

The major use of the Centre was by medical students, the proportion did not vary greatly over the year, remaining constant at approximately 60%. The other users of the Centre came from bio-medical areas and science (30%). Over the year 10% of users came from Agriculture, Veterinary Science and professional areas that used only a small part of the collection.

The materials were primarily accessed by preclinical students (1st to 3rd year, 74% of all users), although several suggestions were received from students in clinical years suggesting that material for these areas be expanded. There was a dramatic increase in use from first to second term. (Table 2) The third term usage might indicate a plateau has been reached. This can only be determined by following usage patterns in future years. The pattern of daily use varied with the sampling period (Figure 1). Monday and Friday were the busiest days in Term 1, while Tuesday and Thursday were busiest in Term 3. This variation is difficult to explain as the lecture and practical schedule did not differ markedly for medical students between these terms. Some examinations were scheduled for the Tuesday through to Thursday period in Term 1 and this may account for the reduced use.

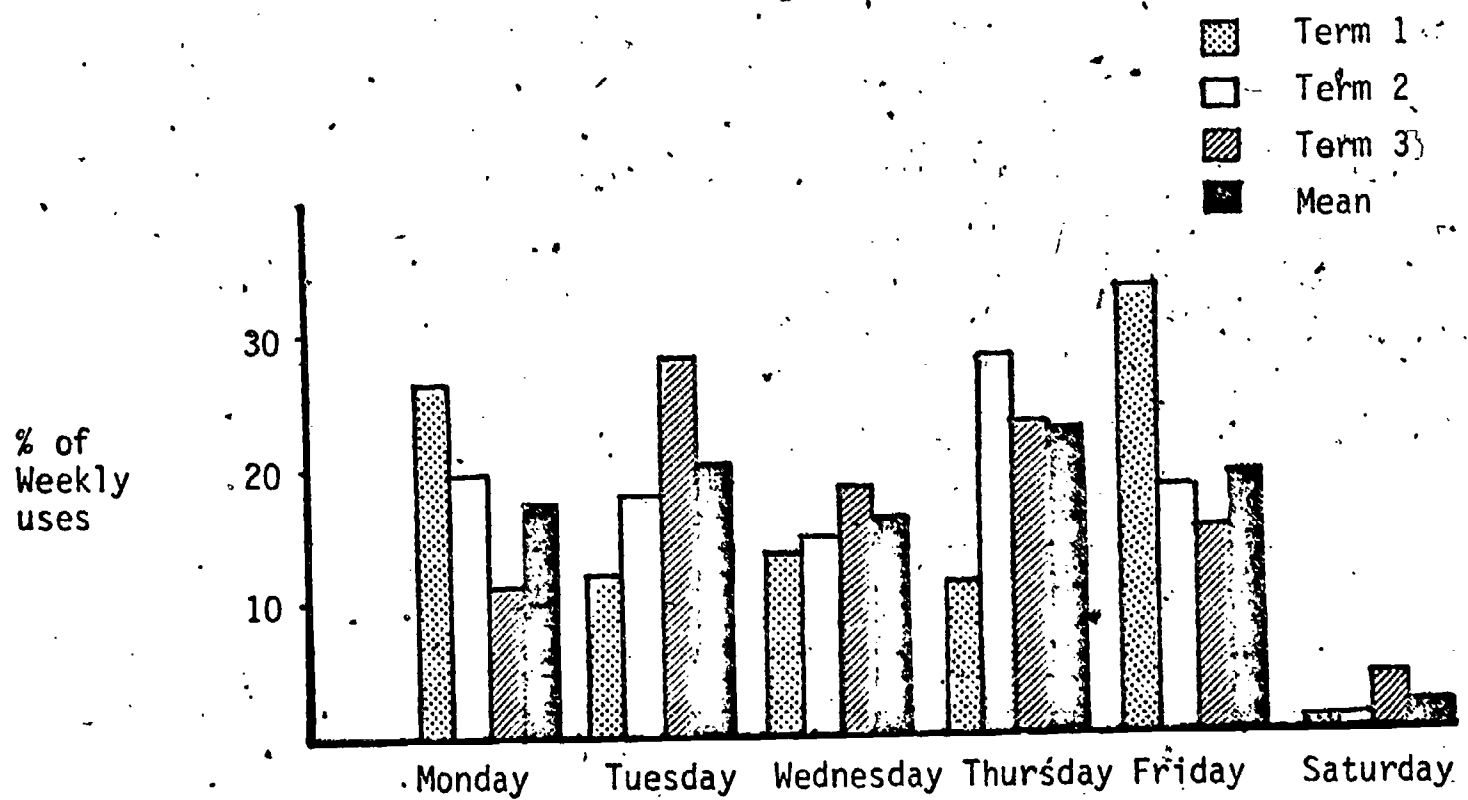


Figure 1. Usage - day of week

The most popular hours to use the centre were 11am to 12 noon, 1pm to 2pm and 3pm to 5pm. The late morning period is a transition time for pre-clinical medical students ending lectures and beginning practical sessions. 1pm till 2pm is generally a lunch break and the late afternoon peak would co-incide with the completion of practical sessions.

Data collection methods by the research staff changed after the first term survey to include a record of those students who referred to the catalogue only and did not use a program. Thus 29% of users stayed less than twenty minutes, 34% stayed between 20 and 40 minutes and the remainder stayed longer usually up to 60 minutes although 6% stayed longer than 80 minutes. Using this data, the estimated occupancy rates for the 13 stations given 63 opening hours per week and 240 uses averaging 30 minutes is approximately 15%. This is likely to underestimate the actual demand as all formats have been averaged together and no time is allowed for change-over of users and peak periods. The California colleges established mean occupancy rates of around 20% for established AV centres and an intensive occupancy at 50% to 65%. The Brownless AV centre is operating at slightly less than this mean occupancy but it does have the potential to grow to the more intensive occupancy levels.

In two surveys users were asked how regularly they used the AV unit.

The responses were:-

Table 3

Visit regularity

	<u>Term 2</u> (N=244)	<u>Term 3</u> (N=240)
First visit	34%	14%
Daily	5%	9%
Weekly	38%	33%
Monthly	16%	30%
Once a term	7%	14%

If these results are considered together with the users identified from previous surveyed weeks (21%), then it is possible to estimate the number of students that use the Brownless AV Resource Centre regularly at around 110 people a week (76%, of 165). Thus it would seem likely that at least 1000 people have used the centre during the year.

4.1 Responses to survey questions

In an effort to reduce the length of the questionnaire most questions were only asked once or twice during the survey periods.

In terms 1 and 3, users were asked how they first found out about the Brownless AV Centre. The majority saw the centre while in the library (42% Term 1, 44% Term 3), the remainder were either recommended by their lecturer or tutor (33% Term 1, 20% Term 3) or by a fellow student (23% Term 1, 26% Term 3).

The larger percentage of students being recommended by lecturers to the Centre in Term 1, is primarily the result of a large tutorial group of agriculture and Forestry who viewed a specific program. The expected increase in referrals following the staff survey did not occur. This distribution of information sources would reinforce two main methods of information dissemination. First, academic staff should be encouraged to recommend AV materials in lectures and seminars, and second, existing library displays should be used to point out the Centre in the library. A number of users suggested that signs to the Centre be more clearly displayed.

Once in the Centre, students looked for materials related to their course work. In Term 3 a number of specific responses were included in this question to isolate the type of learning being undertaken in the Centre. Most chose the materials for revision or examination preparation.

Table 4

Reasons for using the AV Resource Centre

	<u>Term 1</u> (N=117)	<u>Term 2</u> (N=244)	<u>Term 3</u> (N=240)
View program recommended by lecturer	26%	18%	4%
Find and view materials related to coursework	46%	51%	41%
General Interest	25%	23%	3%
Other	3%	8%	6%
Find programs for revision/examination	N/A	N/A	43%
To look over additions to catalogue	N/A	N/A	2%
View programs recommended by other students	N/A	N/A	1%

In the last sampled week no special tutorial groups used the Centre as in the two previous surveyed weeks. This had the effect of reducing

the number of respondents viewing programs recommended by academic staff. Furthermore, the third survey week was only two weeks before the annual examinations and many programs were used for revision.

A question to determine the adequacy of the collection from a user viewpoint produced a satisfied 'yes' from approximately 90% of the users in Terms 2 and 3. Of the users responding negatively, the main suggestion was for improvements to be made to the clinical aspects of the collection.

In Term 2 users were asked if they obtained the assistance they required from library staff. On that occasion 44.2% of students were pleased with the assistance given to them by the AV librarian and technician. Only 0.4% were not happy with the assistance and 55.4% did not require any assistance.

One question asked in all three questionnaires, was the relevance of the particular programs watched to the users' coursework.

Although a slight drop in ratings occurred during the year with less users claiming a program was directly relevant, the programs accessed were predominantly seen as relevant to coursework.

The Term 3 results are typical with the distribution on a five point scale being:-

Directly relevant	41%	32%	12%	11%	4%	No relevance
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A similar response was found for the users' judgements of program technical quality, for example in Term 3, on a five point scale:-

Excellent	24%	44%	24%	6%	2%	Poor
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In the first sampled week a question on the pace of the program was asked, in the later questionnaires, users were asked to rate program difficulty. Very similar results were obtained over all three terms. The average being in the centre of both scales.

<u>Pace ?</u>							
Term 1	Far too slow	3%	18%	63%	15%	1%	Much too fast
<u>Difficulty ?</u>							
Term 2	Too easy	6%	24%	62%	8%	1%	Very difficult
Term 3	Too easy	5%	23%	60%	11%	2%	Very difficult

Study skills were briefly tapped in two questions. The first asked how often they stopped the tape. 63% did not stop at all and when later asked if they took notes 63% again did not take notes.

In both second and third terms, users were asked if the program they had just used was available in a number of formats - which would they prefer. This question was designed to confirm the selection and format types chosen for the collection. Taking the two terms together, the following results were obtained.

Table 5

<u>Actual Format</u>	<u>Recommended formats</u>						<u>Total</u>
	<u>Video</u>	<u>Slides</u>	<u>Tape/Slide</u>	<u>Audio/Print</u>	<u>Audio</u>	<u>Book</u>	
Video	214	0	10	14	7	4	249
Slides	1	0	0	0	0	0	1
Tape/Slide	33	1	34	5	2	2	77
Audio/Print	8	0	6	2	0	0	16
	256	1	50	21	9	6	343

Although the actual and recommended totals are similar, there is a wide division of opinion on whether some slide/tape materials should be on videotape, while some videotapes would be preferred in alternative formats.

These results may be restated as 44% of tape/slide materials were perceived as being preferred in that format, 86% of videotapes were preferred in that format, 8% of videotapes would be better as audio cassettes with printed supplements and 2% of the collection was considered inappropriate in its non-print form. The overwhelming bias in favour of videotapes in the collection and usage has implications for future growth and the organisation of hardware for playing these tapes.

4.2 Collection usage by titles

Over the three sampled weeks, information was collected on the number of titles accessed by users. This collection usage was:-

Term 1	50 titles out of 200 available	25% usage
Term 2	93 titles out of 276 available	34% usage
Term 3	102 titles out of 301 available	34% usage

Since only three weeks are represented in the sample, this would appear to be a high usage factor. A commonly cited figure is the percentage of titles used by 80% of the users; in the surveyed weeks this usage rate was 34% of the collection. However, better statistics should be kept on this aspect of the operation of the Centre as a high collection usage has an implied cost for the replacement of the titles.

4.3 Summary of open ended questions

When asked specifically for comments about the improvement of the collection, the overwhelming problem was dissatisfaction with the current listing that serves also as a catalogue. 46% of users who responded to this question pointed out the problems of identifying relevant material and then finding it. Two problems were noted - one the need for subject information in the catalogue entry and the second the need for a fuller description on the outside of the program case. In second and third terms, more items at the beginning and end of the catalogue list were used than in the middle of the catalogue. Assuming equivalent standard and type of materials, this would reinforce the need for better catalogue and information retrieval methods especially if the collection is enlarged. Since audiovisual materials cannot be skimmed in the same fashion as printed materials, this improved information retrieval is critical to the continued use of the Centre.

A number of users suggested that more 'home grown' productions should be included in the collection. Of those who suggested this alternative half suggested lectures be recorded, and the other half suggested that better designed programs should be included. Several comments pointed to programs being useful at the start of a course, but as they did not directly correspond with the course, they have limited usefulness. By tying a program with a course area (either by making specific programs, or by academic staff recommending programs for specific areas of a course), more effective use of the materials could be made. Users have suggested that some planned revision at the end of a program would help reinforce the ideas. This might be considered as part of the selection criteria for programs. If programs were better designed for

4.4 Equipment and maintenance

The AV librarian reported difficulties experienced with the audio cassette players and tape damage. This occurred between the sample weeks in terms 2 and 3. Machines were repaired without unduly affecting users. An 'on-site' technician may not be required provided daily maintenance is undertaken on all machines and the technician is 'on-call' at all times. Experience in other AV resource centres would suggest a technician can maintain a larger number of machines although dispersed geographical location would increase time required. The technician services all videotape recorders and other AV equipment in the library system. The increased maintenance workload should be investigated before the development of too many AV resource centres.

Three equipment related issues were raised in the user survey.

- (a) The loss of television picture on 'pause' makes it difficult to copy down diagrams. (This has been rectified on more modern equipment).
- (b) Tape/Slide programs are difficult to follow if synchronisation is lost. (Slides numbered in the visual field and numbers referred to on the audio would help reduce this problem).
- (c) Some difficulties were experienced with poorly fitting headphones.

4.5 Staff survey

23

The 46% response rate is low by survey standards but if medical faculty departments are separated from related subject departments and the teaching hospitals, the following response rates were obtained.

Pre-Clinical Departments	63/116	54% response
Allied subject Departments	56/135	41% response
Teaching Hospitals	45/106	42% response
Overall	164/357	46% response

An interim report was presented to the Steering Committee in September, when the response rate was 23% (82/357). A comparison of the percentage responses to each question in that report and the current tables indicates an almost identical distribution.

There was not the expected drop in positive response as replies were received from a less committed group of staff. This may be due to the sudden upsurge in visits to the Centre, when the questionnaire was mailed the second time. In one week, eight staff members visited the AV librarian for the first time. In that respect the questionnaire has raised staff awareness of the facility.

Perhaps the most important factor to emerge from this survey of staff is the high percentage (57%) who have not set foot inside the Centre. This should not be taken pessimistically as 71% of the staff had not been asked to select programs for inclusion in the collection. Most staff who replied declared their willingness to assist in the selection process (83%).

(A complete questionnaire with responses is attached).

5. Discussion

The survey has provided data which can be used for comparisons as the Centre develops. In many respects the first year of operation has been quite successful. The high collection usage (34%) and the direct relevance of the programs to coursework suggest good selection principles have been employed.

However, a number of factors should be considered for future operations. First, the users claim that the existing collection satisfies 90% of their information needs. In this response, there is an obvious suggestion of collection size, although it would be erroneous to simply add another 10%. The current determination is based largely on a sample of 2nd and 3rd year students in Medicine; gaps have been noted in the collection in the clinical areas, and specific recommendations have included control of metabolism, embryology with three dimensional models, and somesthesia. However, it appears that a more discriminating selection of additional materials can take place as a basic collection now exists.

Second, it is known that 386 people used the Centre in the three sampled weeks. In addition, 80% were new users in the term 3 sample (Table 2) while 14% declared they were first visitors in the term 3 week (Table 3). This difference represents approximately 100 users. From these general figures and the knowledge that most regular users visit the Centre at least monthly, it is likely that the number of people that have used the Centre is a factor of two or three times the number of persons who participated in the sampled weeks. Examined from a different point of view, 1/10th of the teaching weeks were sampled and 86% of all users were new to the survey over those three periods. Thus if the user population is currently 700-1000 per year, there are some implications for the maximum growth and usage of the Centre as it is half the estimated maximum use under the current method of operation (i.e. little direct teaching, mostly supplemental materials). If teaching strategies change to emphasize an independent study approach, the usage could rise again. It must be noted these are arguable estimates, but the current plateau in use may not be an artifact of the method of data collection. In these terms, the

possibility of increasing the station occupancy rate might not be feasible without changes in course teaching strategies. This hypothesis can only be tested by further surveys in the next few years.

Third, the collection is highly specialized with obvious possibilities for intimate academic staff involvement. In fact, the fostering of this intimacy has been recommended. In other less specific collections, this intimacy and support will be less evident and these collections might take a different style adopting features from other AV Centres not currently used by the Brownless AV Resource Centre.

Fourth, the response to a series of lectures on neuroanatomy has not been entirely favourable. If the collection is going to grow, then materials specifically designed for independent learning should be purchased or produced. While the content and presentation of the series was excellent, there are two major problems with the recordings: the camera operator in an unscripted presentation without direction may not select the most important picture for a student learning from the videotape. The poor production offered by one camera and no rehearsal was considered distracting by the students viewing the material. To reduce both these problems, many students would be happier with a tape/slide program with illustrations on slides and the lecture recording synchronized to these illustrations.

In the survey of staff, less than a quarter had recommended materials to students. This is a much lower figure than two-thirds of the staff in the Wilson, Houston and Starnes (1976) report, but this difference might be seen as a benchmark upon which growth can occur over the next few years. The other comparisons are also lower but the keen respondents should be

26

encouraged; one third of respondents have declared they are willing to design their lectures for production on videotape or tape/slide.

The main limits to growth are the time required for each project.

The data collected in these surveys may be further analysed to provide specific information on program usage and worth, to assist in the identification of poor learning materials or to examine the relationships between the different questions asked. The evaluation of an AV collection should be ongoing - operational changes, additions to the collection, and changes in faculty teaching methods should be monitored to determine their effects on the use of the collection and to maximise its value to student learning.

6.0 Recommendations

1. A satisfactory data collection system needs to be implemented to:
 - (a) determine the percentage of collection usage,
 - (b) predict the life of each program (number of passes)
 - (c) describe the type of user,
 - (d) predict equipment maintenance requirements and equipment breakdown.

This may be a simple date stamp placed on the program package before it is returned to the shelf or a request for all users to complete a simple loan card. The hour meters on the replay machines could be monitored as a part of the regular maintenance of machines.

2. The catalogue should be improved immediately and cards on the collection should be available at least in the main Brownless catalogue and

7. The success of the Centre is dependent upon staff recommending materials relevant to the learning of their subject. Too few know the range of audio visual resources available or how to maximise the use of the Centre for their students. A range of selection panels/seminars might be arranged with the co-operation of departmental liaison people.
8. In addition to the selection of materials, academic staff have indicated a willingness to produce learning materials. This would increase staff familiarity with the collection and also increase its relevance to courses. The Medical faculty might be asked to support some reward system for this individual involvement.
9. Additional subject information obtained from selection panels should be added to the label on the program case.
10. Maintenance and equipment operation should be closely monitored. This will assist the planning for replacement or changing the style of operation of the Centre.

in the AV Resource Centre. Before any other AV collections are opened, there should be a commitment to priority cataloguing for the materials.

3. Programs on study skills, especially using AV materials, should be added to the collection. Reading, writing, listening, remembering, note-taking, and test-taking are essential skills. Currently, there is a project to develop a set of materials in these areas by the Study Skills Counsellor of Student Counselling.
4. In the selection of materials for the collection, the following criteria should also be used;
 - (a) Programs are designed for individual learning.
 - (b) Self-tests are included in the materials
 - (c) Programs are close to the existing curriculum and fulfil the needs for revision or basic instruction on the topic.
5. The articulation of a support policy for the outlying clinical departments. A survey of the use and needs of the clinical departments should occur in 1979 with emphasis on borrowing and multiple-copy purchasing policy.
6. Borrowing of AV materials should be for a few hours or overnight, rather than longer periods; loans of a few days may still be necessary for users beyond the Parkville area.

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Appendix 1

Programs in Special Categories

1. The following programs were viewed by a number of users from clinical and pre-clinical years. This is generally not the case as programs are usually viewed by users in the same year. (VC = video cassette)

AV 21 Physical Examination: Elementary Techniques (VC)

AV 152 Immunity and Immunopathology (VC)

AV 163 Brain Stem (VC)

AV 178 The Clinical Interview (VC)

AV 230 Functional Anatomy of the hand (VC)

2. The most frequently watched programs in the three survey weeks were:

AV 34	Gastric Secretion (VC)	34 times
AV 10	The Chemical Dream (VC)	19 times
AV 47	Surface Anatomy of the Hand (VC)	17 times
AV 38	Dextran, Thrombosis and Haemostasis (VC)	13 times
AV 218	Iatrogenic Diseases in Haematology (VC)	13 times
AV 230	Functional Anatomy of the Hand (VC)	12 times
AV 41	Thrombolytic Therapy (VC)	12 times

If the three sampled weeks represent one tenth of the usage of these programs, it is likely that a program such as 'The Chemical Dream' will last approximately three years before a new copy will need to be purchased. (These estimates are based upon the prediction that a tape will last approximately 500 playings. Thus 19 playings in 1/10th of the teaching year implies 190 playings per year and three years would be the predicted life span).

Depending on the unit costs it might prove more satisfactory to purchase a 16 mm film copy and pay a royalty each time a videotape copy is made from the film. In this way the film may be stored and not used for distribution.

3. A number of programs were viewed in each surveyed week. The following eleven programs represent 6% of the programs that were accessed.
(11/185).

AV 3 Microbes and Men - The Invisible Enemy (VC)
AV 7 Microbes and Men - The Tuberculin Affair (VC)
AV 21 Physical Examination: Elementary Techniques (VC)
AV 28 Adrenergic Receptors (VC)
AV 47 Surface Anatomy of the Limbs (VC)
AV 99 Hypertension 1977 (VC)
AV 105 Introduction to minicomputers (VC)
AV 165 Cranial nerves and their nuclei (VC)
AV 178 The Clinical Interview (VC)
AV 185 Facial Nerve (VC)
AV 188 Cardiac Output in Man (VC)

This list will change rapidly as new programs are added to the collection. However, it is important to note that planning for specific programs to be available at one time in the year is not always feasible. Some materials will be used for revision at different times throughout the academic year.

4. The following tape/slide programs would be preferred in a videocassette format: 56, 57, 60, 65, 72, 75, 76, 81, 83, 89, 90, 92, 184, 210 (parts 1, 2, 7 and 8) 252 (parts 1, 2 and 3) and 255 (part 1).

The most consistent suggestion for a change of format was for AV 210 'Teaching Tapes on Respiratory Physiology' with nine recommendations from 15 users.

- 32
5. The following videotape programs would be preferred in other formats tape/slide or audio/print: 2, 8, 18, 20, 24, 26, 27, 34, 35, 38, 41, 120, 122, 129, 130, 152, 153, 179, 185*, 186*, 213*, 218, 223*, 230,

234, 235, 238, 240, 241, 257*, 276.

The highest scoring program was AV 218. 'Iatrogenic Diseases in Haematology' with eight recommendations for an alternative format. The asterisked programs are recordings of a series of lectures in neuroanatomy made on campus.

Questionnaire on Brownless Audio-Visual Unit

We would like you to help make this a more effective learning unit. Simply mark a point of the scale which most closely fits your opinion or make a short comment. The data is being collected by the Centre for the Study of Higher Education and individual replies are confidential.

S.C. Driver,
Senior Lecturer,
Centre for the study of
Higher Education.

Name

Telephone

Year & Course

Date & Time

1. How did you first find out about the Brownless Audio/Visual Unit?

.....
.....

2. What is your purpose in coming here? (Please be as specific as possible).

.....
.....

PROGRAM DETAILS. Please list only one program. Additional forms are available if more than one program was used. Only questions 3-10 need to be answered.

Program Number

3. How did you find out about this particular program?

.....

4. How much of this program did you listen to or watch?

5. How relevant was the content of the program to your studies?

RELEVANT

49.6%	18.8%	22.0%	7%	2.3%
-------	-------	-------	----	------

NO
RELEVANCE

Comments

6. How would you rate the technical quality of this program?

EXCELLENT

31.4%	37.0%	22.0%	6.2%	3.1%
-------	-------	-------	------	------

POOR

Comments

7. How would you rate the overall pace of the program?.

MUCH
TOO FAST

0.8%	14.6%	63.4%	17.8%	3.2%
------	-------	-------	-------	------

FAR
TOO SLOW

Comments

8. Did you stop the tape during the program?

63.3%	8.9%	15.4%	3.2%	8.9%
-------	------	-------	------	------

NOT AT ALL

OCCASIONALLY

OFTEN

Comments

9. How would you describe your note-taking? .

NO NOTES

50%	16.4%	13.4%	11.9%	8.2%
-----	-------	-------	-------	------

COMPREHENSIVE
NOTES

Comments

10. Any other comments on this program?

.....
.....
.....
.....

Thank you for your co-operation.

BROWNLESS AUDIO VISUAL UNIT

Summary of 126 questionnaires completed during the week ending
Thursday 11th May, 1978

- Q.1 How did you first find out about the Brownless Audio-Visual Unit?
- | | |
|---------------------------------|-------|
| a) Through the Library | 42.1% |
| b) From a Lecturer | 32.6% |
| c) From a friend/fellow student | 23.2% |
| d) Other | .1% |
- Q.2 What is your purpose in coming here?
- | | |
|---|-------|
| a) Revise/enrich studies or reinforce lectures | 46.3% |
| b) View recommended program/prescribed material | 26.3% |
| c) Relaxing change from book-learning | 7.2% |
| d) Self-motivated curiosity | 16.8% |
| e) Pass the time | 2.1% |
| f) Other | 3.2% |
- Q.3 How did you find out about this particular program?
- | | | |
|-----------------------------|-------|------|
| a) Saw it on the shelves | 18.8% | (22) |
| b) Used the catalogue/index | 28.8% | (33) |
| c) Advice from friends | 17.9% | (21) |
| d) Library circular | 0.8% | (1) |
| e) Recommended by lecturer | 22.2% | (26) |
| f) Next in the series | 1.7% | (2) |
| g) Other | 2.5% | (3) |
- Q.4 How much of this program did you listen to or watch?
- | | | |
|---------------|-----|------|
| a) All of it | 75% | (85) |
| b) About half | 13% | (15) |
| c) A little | 12% | (13) |
- (N=113)

TERM 2 USES

Centre for the Study of Higher Education

Name _____

Telephone _____

Year and Course _____

Date and Time _____

**Questionnaire on Brownless Audio/Visual Unit
July 1978**

This is the second part of an ongoing evaluation of this Unit, the first questionnaire has already helped to make this a more effective learning unit. The data is being collected by the Centre for the Study of Higher Education and individual replies are confidential.

Simply mark a point on the scale which most closely fits your opinion or make a short comment.

S. C. Driver Senior Lecturer

General (N=244)	Total Uses	Medical Students Only (N=105)
1 How regularly do you use the Audio/Visual Unit?	33.9% 4.7% 38.1% 16.5% 6.8%	17.8% 6.8% 47.3% 19.9% 8.2% First visit Daily Weekly Monthly Once a term
2 Why are you here?	17.5% 51.3% 22.9% 8.3%	5.4% 63.9% 24.5% 6.1% View program recommended by lecturer/tutor Find and view materials related to course work General interest Other (please specify) _____
3 Did you find materials relevant to your needs?	90.8% 9.2%	90.8% 9.2% Yes No If not, can you make any recommendations? _____ _____ _____
4 Did you obtain sufficient assistance from librarian/technician?	44.2% 0.4% 55.4%	33.1% 0.7% 66.2% Yes No Not required
	Comments	_____ _____ _____

Program details

Please list only one program on each sheet. If more than one program was used then answer questions 5-10 on an additional form.

Program number: _____

5 How relevant was the content of the program to your studies?

	47.3	21.7	17.4	7.7	5.8	Total uses %
Directly relevant	48.2	21.1	19.0	7.5	4.2	No relevance Medical only

Comments _____

6 How would you rate the technical quality of this program?

	23.7	44.0	24.2	6.3	1.9	Total uses %
Excellent	27.4	40.7	23.2	6.9	2.4	Poor Medical only %

Comments _____

7 How would you rate the difficulty of the program?

	6.1	23.7	61.6	8.1	0.5	Total uses %
Too easy	4.3	19.9	62.1	11.8	1.9	Very difficult Medical only

Comments _____

8 How would you describe your note-taking?

	63.3	15.2	10.0	5.2	6.2	Total uses %
No notes	56.7	16.1	11.8	8.2	7.3	Comprehensive notes Medical only

Comments _____

9 If this program was available in a number of formats which would you prefer?

- _____ Video cassette
- _____ Slides only
- _____ Audio cassette/slides
- _____ Audio cassette/printed materials
- _____ Audio cassette only
- _____ Book or other printed materials

10 Any other comments on this program?

Thank you for your co-operation

TERM 3 USES

Centre for the Study of Higher Education

Name _____

Telephone _____

Year and Course _____

Date and Time _____

Program no. watched AV _____

Questionnaire on Brownless Audio/Visual Unit
October 1978

This is the third part of an ongoing evaluation of this Unit. The data is being collected by the Centre for the Study of Higher Education and individual replies are confidential.

Simply mark a point on the scale which most closely fits your opinion or make a short comment.

S. C. Driver Senior Lecturer

General (N=240)	Total Uses	Medical Students Only (N=146)
1 How regularly do you use the Audio/Visual Unit?	13.6%	10.6%
	8.6%	6.1%
	32.7%	43.2%
	30.5%	31.8%
	14.5%	8.3%
2 Why are you here? (Tick as many as relevant)	4.1%	5.3%
	41.1%	41.7%
	3.2%	0.8%
	40.1%	41.1%
	0.9%	1.5%
	2.7%	3.8%
	2.3%	0.8%
	5.9%	4.5%
3 How did you first find out about the Brownless Audio/Visual Unit?	44.4%	56.5%
	19.4%	11.5%
	25.5%	24.4%
	10.6%	7.6%

continued overleaf

	<u>TOTAL</u>	<u>MEDICAL ONLY</u>	
4 Did you find materials relevant to your needs?	91.6%	93.3%	Yes
	8.4%	6.7%	No If not, can you make any recommendations?

5 Would you like to see Audio Visual materials a key part of your course?	74.3%	74.4%	Yes
	14.2%	13.7%	No
	11.5%	12.0%	Undecided
	Why? _____		

6 Some staff and students are producing material for inclusion in the collection. What are the best ways to improve the collection, and how it is used?	46.7%	44.8%	Improve catalogue and relate programs to specific course areas.
	13.3%	17.2%	Record lectures.
	11.15%	6.9%	"In house" programs.
	15.6%	19.0%	Improve clinical collection.
	4.4%	3.4%	Have multiple copies.
	8.9%	8.6%	Improve publicity/loan period.

Specific program details

7 How relevant was the content of the program to your studies?	Directly relevant	41.4	32.0	12.2	10.5	3.9	No relevance	TOTAL %
	Comments	44.6	35.7	12.5	5.4	1.8		MEDICAL %

8 How would you rate the difficulty of this program?	Too easy	5.1	22.5	59.6	11.2	1.7	Very difficult	TOTAL %
	Comments	6.3	19.8	62.2	9.9	1.8		MEDICAL %

9 If this program was available in a number of formats which would you prefer?

☐ Video cassette
☐ Slides only
☐ Audio cassette/slides
☐ Audio cassette/printed materials
☐ Audio cassette only
☐ Book or other printed materials

10 Any other comments on this program?

Thank you for your co-operation

You may be aware that under a New Development Grant the Faculty of Medicine has established a Bio-medical Audio-Visual Resource Centre on the ground floor of the Brownless Medical Library. The Centre for the Study of Higher Education has been requested to evaluate the impact of this unit on teaching and learning. Two surveys of student usage have already been completed this year. The most recent survey showed that 169 users, including students from all years of the medical course, study 101 different programs per week.

Your responses to the following questionnaire are a vital part of this continuing evaluation. Individual replies are confidential. Thank you for your assistance.

Sandford L. Skinner, Convenor Steering Committee.

Name: _____

Please return to:

Department _____

Miss L. Rowan,

or Hospital: _____

Centre for the Study of Higher Education,

Telephone: _____

University of Melbourne,

Telephone: 6316.

1. Have you visited the Brownless Audio Visual Resource Centre?

YES 70 (43%)

NO 94 (57%)

(N=164 cases)

Have you read the list of programs available in the collection?

YES 89 (54%)

NO 75 (46%)

2. Have you referred your students to any programs in the Brownless Audio Visual Resource Centre? YES 34 (21%) NO 129 (79%)

(If NO, go to question 3).

If so, which programs? Pharmacology (5 progs.); Physiology (7 progs.)

Biochemistry (14 progs.); Agriculture & Forestry (3 progs.); Anatomy (12 progs.)

Pathology (1 prog.); R.M.H. (3 progs.); Royal Women's (2 progs.)

Austin Hospital (1 prog.)

and why did you refer students? (Tick as many as relevant).

Of the 34 who had referred students
13 (38%) I recommended the initial purchase of the program.

30 (88%) I know the content to be relevant to course work.

10 (29%) The program title/description showed it to be relevant.

12 (35%) On recommendation of a colleague.

4 (12%) I was associated with making it.

5 (18%) To see the results of using Audio Visual materials in teaching.

1 (3%) On comments from students.

1 (3%) By reference from library staff.

2 (6%) Other _____

3. Would you find it useful to borrow materials for external use, from the Audio Visual Resource Centre? Why? (N= 143)

No 34 (24%)

Possibly 50 (35%)

Yes (but too far away or

no facilities available) 18 (12%)

Yes (using now)

41 (29%)

4. Would you be interested in attending a seminar on the Audio Visual

Resource Centre?

YES 81 (56%)

NO 65 (44%)

What specific information would be useful to you? (N=59)

What is available 20 (34%)

To find out how best to use audio-visual materials. 16 (27%)

5. Have you ever been involved in producing individualised programs for your students? (e.g. tape/slide; videotape; histological slide/text) (N=155)

YES 54 (35%)

NO 101 (64%)

What are the titles of your programs?

6. Would you design some of your lectures/tutorials specifically for videotape and have them placed in the Resource Centre for individual study?

NO 47 (34%); POSSIBLY 41 (30%); YES 49 (36%) (N=137)

Acquisition of Programs

7. How should programs in your teaching area be selected for inclusion in the Audio Visual Resource Centre?

By teaching staff 51 (46%) (N=112)

Previewing lists 16 (14%)

Supplement course 15 (13%)

Other 30 (27%)

8. Are you prepared to preview programs with respect to their use in your teaching area?

YES 123 (83%) NO 13 (9%) UNDECIDED 12 (8%) (N=148)

9. If possible, please suggest sources the Audio Visual librarian should approach for material useful in the teaching of your subject.

10. Have you been approached to recommend programs for purchase? YES 42 (29%) NO 105 (71%)

11. Have you any Audio Visual teaching materials which you would be prepared to place on permanent loan in the Resource Centre for individualised study? (N=147)

YES 21 (15%)

NO 121 (85%) (N=142)

12. Any other comments on the Audio Visual Resource Centre?

Thank you for your assistance.